Customer Spotlight:
Linamar Makes Demand Response a Green Initiative at 25 Manufacturing Sites

The Big Picture
Based in Ontario, Linamar Corporation has grown from a small machining operation to a global supplier of vehicle and mobile industrial equipment with 37 manufacturing facilities worldwide. Linamar designs and manufactures precision metal components for the global vehicle and power generation markets, as well as designs and produces aerial work platforms and other equipment for its industrial business segment.

As Linamar has grown, so has its yearly energy usage. This dynamic presented a paradox for the historically environmentally-conscious company; Linamar was eager to minimize its energy usage as much as possible but did not want to impede its manufacturing operations. The customized energy reduction plan proposed by Enel X was exactly the bespoke solution that Linamar needed to participate in the IESO Demand Response Auction (DRA) scheme. Enel X helped Linamar identify potential areas for energy reductions while leaving critical manufacturing processes untouched.

Customized Site-Specific Demand Response
Linamar was keen to reduce energy usage wherever possible, but with 25 separate facilities across Ontario, knowing where to begin was an intimidating challenge. Enel X’s local experts made this daunting task seem simple. In early 2009, representatives from Enel X visited all of the site managers at Linamar’s various facilities. They conducted interviews and determined what level of participation would be right for each individual plant. “Enel X took us through the process step-by-step,” Luis recalled. “They met with each individual plant, and explained what each site’s involvement would be in a demand response dispatch.”

Enel X outlined a curtailment plan for each Linamar facility, met with each facility manager to have it approved, and ran tests at each site to make sure the reductions would be effective during a demand response dispatch. Ultimately, consensus was reached across all 25 plants, and each one signed on to its unique energy reduction plan.

The Results
Linamar’s two requirements for its plants’ curtailment plans were to 1) maintain employee safety at all times, and 2) to allow its manufacturing processes to continue unimpeded. Therefore, when a demand response dispatch occurs, Linamar practices non-operational curtailment measures such as reducing air conditioning in the plants’

INDUSTRY
Automotive and Diversified Manufacturing

LOCATION
Headquartered in Guelph, Ontario

PROGRAM
IESO DRA

DR STRATEGY
Curtailment only (temporary shutdown of lighting, comfort, and charging stations)

ANNUAL PAYMENTS
Hundreds of thousands of dollars
front offices, dimming lights, and reducing the air cycle schedule in the plants. Through these measures, Linamar’s 25 plants have the ability to provide a total reduction of 2.4 megawatts (MW) per dispatch. Since joining the program in 2009, Linamar has been dispatched an average of six times per year.

For Linamar, participating in demand response with Enel X is straightforward. Four hours before a dispatch begins, Enel X contacts the designated point person at each Linamar facility. The Linamar contacts acknowledge the dispatch via email or cell phone. The company then sends out an internal email to let its staff know that the dispatch is occurring. Two hours before the actual dispatch, Linamar’s sites implement their respective curtailment plans. “We like to be proactive and make sure we will be able to meet our goals. We test this prior to the dispatch taking place,” says Luis. From his computer, Luis can monitor each site’s energy consumption in real time via Enel X’s cloud-based energy intelligence software, ensuring that each site is meeting its reduction targets. If he observes any one of the 25 sites not adhering to its plan, Luis will make a call to investigate. The dispatch lasts exactly four hours.

The Benefits
Linamar’s 2.4 MW reductions have earned the company approximately hundreds of thousands in annual payments from Enel X. In addition to these financial benefits, Linamar has used Enel X’s EIS platform to enhance its own internal understanding of its various plants, and increased its awareness of what processes have the greatest impact on the company’s energy usage.

Enel X demand response brings additional benefits to the company as well, including:

Business Continuity
For most manufacturing companies, the financial incentives from demand response prompt them to pursue a full or partial shutdown of manufacturing processes, while the crew are deployed to other activities like equipment maintenance. For Linamar, though, Enel X was able to identify substantial energy reductions outside of core manufacturing processes so Linamar enjoys the financial rewards of demand response without disruption to its business.

Business Intelligence
Enel X’s EIS platform provides Linamar with a way to monitor its disparate facilities from a central online application. Prior to working with Enel X, Linamar had no way to visualize aggregated energy usage data from individual facilities. “Our plants were not connected to each other at all,” noted Luis. “Enel X gave us tools to help identify what processes in our manufacturing have the greatest impact on our energy use. Our plants are now connected; we didn’t have that before.”

Local Support
If a certain plant struggles to reach expected reductions during dispatches, Enel X visits that site to discuss adjustments to its curtailment plan. “Enel X is very involved in the process of making DR work for each of our plants. They are the experts in what is required to meet our reduction goals,” Luis explained.

A Comprehensive Approach to Sustainability
“A lot of our decision-making processes are green-conscious,” said Luis. “The IESO DRA program is just another element of how we do things here. We appreciate the financial benefits but we also learn about our business’ effect on our electricity usage.” Often, individual plants will challenge themselves to continue curtailment even longer than the official dispatch period. “We take certain measures to reduce electricity during curtailment, but now plants are asking themselves, ‘Can we do these things over longer periods?’”

The Future
Linamar recently renewed its contract with Enel X so that it will continue to understand its own energy usage and earn financial benefits at the same time. Why else? Enel X makes it easy. Says Tony Luis: “Enel X stays on top of things and communicates with us; they are very active and involved.” With its hands-on, customized approach, strong local connections with Ontario’s utilities, and global technical expertise, Enel X takes the guess-work out of demand response.

“Enel X has the most information, the most up-to-date process knowledge, and the most insight into the specifics of demand response.”

—Tony Luis, Director of Purchasing